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disClosure Interviews David Buss

Evolutionary Psychology and Intimacy: The Science of Violence, Competition, and Sex

Dr. David Buss received his PhD from the University of California, Berkeley in 1981. He is presently professor of evolutionary psychology at the University of Texas at Austin. His books include *The Murderer Next Door: Why the Mind Is Designed to Kill*, *The Dangerous Passion: Why Jealousy Is as Necessary as Love and Sex*, *The Evolution of Desire: Strategies of Human Mating*, and *Evolutionary Psychology: The New Science of the Mind*. He is currently president of the Human Behavior and Evolution Society.

Dr. Buss visited the University of Kentucky in February 2005 to participate in the Spring Seminar and Lecture Series on Intimacy sponsored by the UK Committee on Social Theory. He delivered a lecture, "The Evolution of Desire: Strategies of Human Mating," in which he presented an overview of the central ideas of the book of the same title, in light of subsequent research. During his visit, Dr. Buss was interviewed by Sean Dummitt and J. Michael Tilley, members of the *disClosure* editorial collective. In this interview, he clarifies what he sees as the central contributions evolutionary psychology can make to our understanding of human sexual relationships, explains how evolutionary psychology relates to other social scientific disciplines, and describes what he sees as its extraordinary explanatory power. He offers a defense of evolutionary psychology's premises and methods for the purpose of dispelling what he sees as widespread misunderstanding of it. For him, evolutionary psychology's approach is a powerful tool for self-knowledge that can help to dispel much of the confusion and subsequent interpersonal conflict surrounding issues of intimate relationships and the social environments in which these relationships are embedded.

disClosure: You have a new book coming out soon, *The Murderer Next Door: Why the Mind Is Designed to Kill*. [The book was published in May 2005.] Could you briefly characterize the work?

David Buss: My new book basically provides a radically new theory of why people kill. If you look at prior theories out there about why people kill, they fall into several different categories. One of these is that people are exposed to media violence, they grow up seeing people being killed, they see Arnold Schwarzenegger in *The Terminator*, and this causes them to go out and kill. The problem with such explanations is that the murder rates in cultures without exposure to such media are actually higher, such as among the San in Botswana or the Yanomamo of Venezuela. In fact, the United States, which is saturated with media violence perhaps more than any other culture, has a lower murder rate than most traditional societies. So these kinds of theories just don't wash, and one of the things I do in the book is review why all the other theories are inadequate. My theory is a new theory that proposes that humans have evolved adaptations to kill, and hence the subtitle of the book is *Why the Mind Is Designed to Kill*—that in the harsh process of evolution, it was reproductively beneficial to kill in some delimited circumstances. The book outlines the many different conditions surrounding killing and being killed: such things as killing rivals, killing mates who have defected to rivals, killing for status issues, killing to get ahead, killing the competition, killing to stay on top. It deals with historical and current dictators who have basically used killing as a strategy to get to the top and maintain their positions, such as Saddam Hussein, Pol Pot, Idi Amin, Pablo Escobar. But then it also deals with killing within families: killing step-kids, killing infants. And it deals with warfare.

Interestingly, because it turns out evolutionarily that it is extremely advantageous to kill under some circumstances, it is extremely costly to be a victim of murder. So it's very bad to be killed. You can quote me on that one. It's very, very bad to be dead. And in fact it's more devastating than most people realize. So, when I say that it's bad to be dead, you say, of course it's bad to be dead. It won't make it to the headlines of the *New York Times*: "Scientists Discover That It's Bad to Be Dead." Actually, it turns out that it's far worse than most people imagine. No one previously has theoretically worked out the [evolutionary] fitness consequences of being killed. So this is one of the things I show in the book. Not only does getting killed terminate all future reproduction, but whatever kids you have produced up to that point become more vulnerable without your protection. Your entire kin group becomes weakened and exploitable without you around to protect

them. So the fitness costs of being killed cascade down generations and affect entire lineages. As a consequence, as soon as killing entered the population as an evolved strategy, as it has in many other species, including our closest primate relatives, the chimpanzees, it would immediately impose selection pressure for the coevolution of adaptations to prevent getting killed. These are what I call anti-homicide defenses, and these start very early in life, even in utero.

Most of what I focus on in the book is mating and murder. Mating turns out to be a central motive in many murders. There are of course things like getting rejected or ejected from a relationship, sexual infidelity, mate murder, but also killing sexual rivals. A lot of people who kill do so to defend their reputation, status, and position, all of which affect one's mating success. And so what the book provides is a radical new theory of why people kill, which I believe is the most penetrating and most comprehensive scientific theory yet advanced about why people kill. I show why this theory provides a more powerful explanation of the many kinds of murder than existing theories. I marshal seven years of empirical research I did to test various aspects of the theory. This includes samples from different cultures about homicidal fantasies, or what we call homicidal ideation. We have data from Singapore, Peru, Austria, Great Britain. We also have studies on what I call anti-homicidal ideation: "Have you ever felt that your life was in danger?" "Have you ever thought that someone might want to kill you?" "And what triggered those thoughts?"

Then we have a unique sample of 375 murderers from the state of Michigan, and we had access to an FBI database on almost half a million murderers in the last century. I bring together all of these sources of evidence paired with paleontological discoveries that go back in some cases tens of thousands of years, where they find projectiles, arrowheads lodged in skeletons, or cranial trauma that is primarily found on the left sides of male skeletons that indicate close face-to-face combat. There are bone gashes to indicate homicide. Even the "Iceman," who they thought had gotten tired, fallen asleep, and froze to death—well it turns out that he was shot with an arrow. When they did a scan, they found an arrowhead lodged in his scapula, and they found extensive wounds on his hands, and blood from other wounds. So homicide goes way back in human history. What I do in the book is pull together all these different sources of evidence—actual murders, paleontological evidence, cross-cultural ethnographic evidence, psychological evidence from my own studies of homicidal fantasies and anti-homicidal ideation—to test various aspects of the theory and illustrate it with these cases of murder, which everyone is fascinated with.

dC: How does evolutionary psychology overcome or supersede the nature/nurture debate of previous generations?

DB: Well, basically, it provides the framework that does away with the nature/nurture debate. And it does it in an eloquent way. Most people will say, "Well, of course it's both nature and nurture; it's the interaction between the two." But that attitude doesn't really do anything to help clarify how to think about it. The evolutionary psychological perspective does. And it does so in the following ways. The environment plays a causal role on the production of behaviors in multiple ways. First, it is the environment that is responsible for providing the selection pressures for the evolution of psychological mechanisms. That's what selection is; it comes from the environment, the physical environment and the social environment, and that's what influences whatever mechanisms we have. So all of our current mechanisms are environmentally caused, you could say, because they are the end product of prior selection from the environment.

Second, in order for those evolved mechanisms to be developed properly, into their designed forms, they require environmental input, in some cases particular sorts, at every step of the way during the course of development. Even the eyeball and the visual system require environmental input for proper development. They've even done experiments on nonhumans where they tape Ping-Pong balls over the eyes of the organisms for a few months following birth, and if you do that so that all they experience is diffused light, but not normal visual stimuli, then the vision is permanently impaired and they never develop, during this critical period, a corrective, functional vision system. What that means is that in this case the visual system requires certain types of environmental input to develop properly. And I think this is true of all evolved psychological mechanisms—they require environmental input every step of the way, literally from the moment of conception all the way up to their fully formed design, in order to function properly.

Third, evolved psychological mechanisms are designed to be activated by features in the environment, and they're designed to solve problems in the environment. So, for example, let's take one topic I study—sexual jealousy. People don't just wake up in the morning and walk around and think, "This morning I'll engage in sexual jealousy." It requires specific forms of environmental input to be activated, such as interest from a mating rival—perhaps a mate poacher comes in and starts hitting on your partner, or your partner shares with you that he or she is getting bored with you and starts flirting with someone else or stops showing signs of affection. These are all social inputs that trigger or activate the evolved mechanism of sexual jeal-

ousy, which then gets played out in various ways. So what I'm saying is that the nature/nurture debate is dissolved by the theoretical framework of the different ways in which evolved mechanisms are described and understood. So, when you ask, "Why did this man get jealous and yell at his partner, is that nature or is it nurture?"—well, from an evolutionary perspective that's a meaningless question, because the framework of evolutionary psychology literally renders that distinction incoherent. What is required is to explain that jealous behavior by saying that there is selection that is responsible for creating a psychological mechanism of jealousy that has developed with environmental input all along the way and that it is activated by events from the environment that have triggered its activation. The same is true when you try to understand why you have a callus on your thumb. Is that nature, or is it nurture? Well, you have evolved callus-producing mechanisms that require friction for their activation, and we understand calluses in that precise, designed way. Again, it's not nature or nurture, it's this specific interaction of environmental input triggering an evolved mechanism that got created by the process of selection.

So the nature/nurture debate is over. And I've never encountered an alternative coherent resolution. I've only heard people argue endlessly and fruitlessly about the topic.

dC: How long do you think it will take for people to catch on? Will it ever become popularly understood?

DB: I don't know if it ever will be by everyone, but some will understand it. There's some way—and this is only a speculation—that humans are really not well designed to think about complex topics like that. We are designed to think in terms of dichotomies, such things as poor and prosperous, friend versus enemy, good and evil. Humans naturally think in dichotomies, ways that don't lend themselves to a proper scientific understanding, just like our minds aren't designed to understand the eleven-dimensional space that physicists are describing. One would hope that sophisticated scientists would be able to overcome their proclivities for dichotomous thinking in order to get to this. I'm more optimistic about that. But who knows?

dC: Do you think a lot of the objections against evolutionary psychology come because of confusions about it?

DB: Yes. I think you're absolutely right about that. Some erroneously think that what evolutionary psychologists are saying is that there are these kinds of blind, robotic instincts that are oblivious to the environment. And they

say, "That can't be right because we can show people media images and that affects their psychology, so evolutionary psychology must be wrong." Well, that's just based on a total misconception of the framework of evolutionary psychology. Yes, I think that the resistance to evolutionary psychology is heavily based on misunderstanding, and if people truly understood what it was, and understood the arguments for it, then a lot of the objections would go away.

dC: I find it interesting how broadly you characterize the environment, to include the social as well as the physical environment. Could you comment on that?

DB: I would even go beyond that and say that for humans the *social* environment is the most important selective force for the evolution of our large brains. If you ask what it is that these big brains of ours are doing, we don't need massive brains to pick berries—you can do that with a very small brain—and we don't need massive brains to avoid predators. What we do need the massive brains for is to deal with very complex social-adaptive problems. So we have things like living in complex social environments where we have extended reciprocal exchanges and relationships that last for years and even decades, coalitions, complex kin networks, status hierarchies that have to be grappled with, short-term and long-term mating conceptions. All of these things have created an enormously complex social environment and we have these evolved mechanisms, these adaptations, to deal with them.

dC: One criticism of evolutionary psychology has been that it has the tendency to provide "just so" stories, where hypotheses are allowed to run wild without any connection to generally accepted scientific principles. What criteria are needed in order to guarantee the scientific character of evolutionary psychology over against these more loose attempts?

DB: I have several things to say about that. One is that, first, the accusation tends to be more of a smear campaign rather than a well-thought-out or well-articulated argument. Because, when people make these accusations of "just so" stories, they generally fail to cite specific examples; it's just a vague accusation they've heard. The second is that another word for "just so" story is "hypothesis," and that's what we do in science. You can go to any scientific discipline—physics, astrophysics, geology, biology—and say that their theories and hypotheses are just a bunch of "just so" stories. Well, the way we evaluate it in science—the issue of what scientific criteria we use—is to ask, Is the hypothesis formulated in a precise manner, is it well

anchored in, and [does it] logically follow from, established theory, and is it formulated in a precise enough manner to generate testable empirical predictions?

On the basis of these criteria, hypotheses vary in scientific utility. They vary from sloppy, imprecise hypotheses that don't generate testable predictions, all the way at the other end to very well articulated hypotheses anchored in solid theory that do generate testable predictions. In every scientific field that I'm familiar with, especially biology and the social sciences, particularly psychology, hypotheses range from the well grounded, precise, and testable to the loose, sloppy, and imprecise. And this is true in evolutionary psychology as well. If you look at evolutionary psychology, you will certainly find examples of sloppy hypotheses as well as well-articulated hypotheses. So I think the smear as a general characterization is inaccurate and unfair, because what we need to do is evaluate hypotheses on a case-to-case base. In that sense it's a lot like saying that I think astronomy is just a bunch of "just so" stories. Well, to use such broad brushstrokes to characterize an entire field just doesn't do a proper job. Is there bad work in the field? Yes. But what advances the science is the good work. So that's one pass at that question.

Now, to give it just a little more air, if you look at the work that is published in the scientific journals on evolutionary psychology, it is not the sort of cocktail party conversation that this criticism is usually leveled at. So you don't see "Well, I think there's an adaptation for this and an adaptation for that, and I think your eyebrows are an adaptation for fending off predators, or for attracting mates." That's just not the way it is. What you will find are things of the sort like "My hypothesis is that, because ovulation is such a critical reproductive event, a critical time in the female's cycle, at ovulation women should be unusually careful about who they select as a mate. So we should expect a heightened selectivity of mates at ovulation." And you can articulate the rationale for why you have that, and that will generate your prediction. Well, do women avoid risky situations when they're ovulating? Are they more selective in their choice of partners? Do their mate preferences shift at ovulation? And so forth. These are perfectly testable ideas, and in fact have been tested and confirmed. Or you say, "I have a theory, Trivers's theory of parent-offspring conflict, which generates a prediction that, generally, offspring will try to secure more resources from parents than parents are naturally inclined to give, so there's selection for parents to try to allocate the resources more equitably across offspring than offspring ideally desire." And you can test predictions that are derived logically from the theory. So the best work in the field doesn't match these "just so" mischaracterizations.

dC: One of the criteria you mentioned seems to be that evolutionary psychology is well grounded in other scientifically accepted theories. Would you comment on the relationship between evolutionary biology and evolutionary psychology? Particularly the dependence of evolutionary psychology on evolutionary biology, in the sense that if there are major shifts in biology, it necessitates changes in evolutionary psychology?

DB: I have a couple of things to say about that. One is, of course, evolutionary psychology utilizes important developments in evolutionary theory. We would be foolish not to. As more sophisticated models get developed in evolutionary theory, as have been developed, they tend to lead to more sophisticated evolutionary psychology. One example is that in 1974, evolutionary biologist Robert Trivers came out with the theory of parent-offspring conflict, which was based on a logical extension of inclusive-fitness theory. But lately there have been more sophisticated models that build on Trivers's theory of parent-offspring conflict to include more comprehensive models of cooperation and conflict within the entire family. So we can have conflict and cooperation between mother and father, between siblings, and between parents and offspring. Actually, I have one graduate student who is working on this problem.

I also want to say that the way you framed the question is a little inaccurate, because there are evolutionary psychologists who *are* biologists, and who are themselves making important foundational theoretical contributions to evolutionary biology. There are people in biology departments who do work that depends on evolutionary psychology, and there are people in psychology departments who make contributions which are fundamental to evolutionary theory. So it's not quite correct to say that they're two entirely separated groups.

The international society which studies evolutionary behavior is called HBES, the Human Behavior and Evolution Society, and it's an international society of scientists worldwide. I'm currently president-elect of this society [now president, 2005–7], so I know all the players, and we have in this society many biologists, many psychologists, many anthropologists, and so forth. And we have economists working in a branch of evolutionary psychology called evolutionary economics. One of the advantages of working with people in other disciplines is the interdisciplinary nature of the field. Most mainstream psychologists are trained and work within a very narrow guild of psychologists and only network with psychologists. Evolutionary psychologists get exposed to and interact with biologists, sociologists, legal scholars, humanities scholars, historians, and anthropological fieldworkers coming back from different places in the world. So, intellectually, it's an extraordinarily rich and rewarding field to work in.

dC: In your book *The Evolution of Desire* [p. 166], you argue, "Perhaps by identifying and fostering conditions that inflict greater personal costs on perpetrators, the incidence of this terrible form of sexual conflict [rape] can be reduced." Are you suggesting greater and more severe legal intervention and prosecution, or perhaps something more, like social education strategies to potentially prevent sexual violence?

DB: I guess I would preface my comments on that by saying that I am primarily a scientist who is trying to find out what makes people tick, trying to discover human nature, asking what these evolved mechanisms that we have are, and trying to understand that. I'm not a law professor or a social policy expert. That's beyond my area of expertise. But, having said that, it is my opinion that knowledge about our evolved mechanisms can be used to beneficial effect on certain social problems like rape and murder, which everybody agrees are abhorrent phenomena that we want to see eliminated. Conflict between the sexes, I think, stems from evolved psychological mechanisms, but knowledge of those mechanisms can help us deal with conflict. So, for example, there's good evidence that when women smile at men, men are more likely to over-infer sexual interest, or over-infer more sexual interest than is actually there. I think it's a bias that has evolved in order to facilitate men's approach attempts in short-term mating, but it leads to sexual conflict because it produces unwanted sexual advances. I think that education—in this case educating men that they have this evolved bias, and that when a woman smiles men have a natural bias to over-infer her sexual interest—can be helpful. The knowledge of that, I believe, can help to reduce sexual conflict, so men might be more cautious, or less ready to over-infer sexual interest and perhaps be less likely to commit that error, if they're aware of that evolved bias.

So my general inclination is to think that the more knowledge we have about our evolved sexual psychology, the better off we will be in dealing with these abhorrent phenomena. And they extend beyond rape. There are also phenomena such as domestic violence. In the case of men beating up their wives, there's unfortunately a kind of functional logic to it, in that it has this effect of lowering a woman's self-esteem, which has the effect of her thinking that there aren't good alternative mates for her out there, and in essence it's a mate-keeping strategy by men. Again, I think that knowledge about why these things are occurring, the context in which they are occurring, can perhaps be beneficial.

In terms of the legal issue, I would be more hesitant to say anything about that, except to say that if you read the law, it is designed in part to prevent people from doing things that we don't want them to do, such as

rape, kill, rob, steal, and so forth. Greater knowledge of our evolved psychology should in principle allow us to devise laws that are more effective. In that sense, I'm very happy that Professor Owen Jones [at Vanderbilt University] is one among a number of eminent law professors who is, in essence, taking evolutionary psychology and bringing it into the law in very positive ways. But, as I said, it's beyond my area of expertise to do that.

dC: How would you describe the status of evolutionary psychology in relation to other disciplines that primarily deal with human beings?

DB: I guess that there might be a couple of things to say. One question is, Is the scientific method the only way to find things out about the world? Well, no. There are other ways to find out about the world. Science has its limits like any approach. But I happen to think that [the] scientific method is a good method. It has some admirable qualities that some others don't, such as the demand that scientists test and verify their hypotheses. It has a self-correcting nature that other approaches don't have. So it has many virtues. But is it the only way? No.

I would say in terms of its interactions with other disciplines that—and this may sound like a grandiose claim, but I believe that it's true—that evolutionary psychology properly provides the foundations for all the social sciences, in the sense that everything that people do is a product of their evolved mechanisms, at least at some fundamental level of description. Take for example economics. Economic behavior is human behavior, so ultimately the field of economics will be based, at least in part, on a foundation of evolutionary psychology. That's already starting to happen. Professor Vernon Smith, a prominent award-winning economist, has pioneered a branch of economics called "evolutionary economics." Others are integrating evolutionary psychology with political science, sociology, and anthropology. Again, they all deal with human behavior, and human behavior is the product of evolved psychological mechanisms and environmental input that activates those mechanisms. And so there is no such thing as a non-evolutionary psychology. Behavior doesn't arise in the absence of psychological mechanisms.

dC: Explain how you think evolutionary psychology would inform a politics which seeks to equalize power relationships.

DB: I think that evolutionary psychology can inform us about the origins of some forms of inequality in the economic realm. Basically, mating strategies are, I think, largely responsible for what gives rise to what we call

power imbalances or economic imbalances in the following way. It's an analysis from coevolutionary theory. Of course, coevolution is central to all of my work, that every adaptation creates selective pressure for other adaptations, counter-adaptations, and counter-counter-adaptations. In this particular case, one coevolutionary process starts with female preferences and male mating strategies. It is that—and it's widely known now and based on my work and on that of others—women have stronger preferences for mates with access to resources. Once women have this preference, and they have it universally and they act on it, it creates selection pressure on men for competitive strategies to acquire resources and control resources. It takes a whole set of motivational and strategic mechanisms designed to acquire, control, and allocate resources, and so men have evolved to place a higher motivational priority on resource acquisition, because those men who didn't ended up mateless, or with fewer mates or less desirable mates. So, in the here and now, we do find sex differences in the degree to which people are monomaniacal about their work. In fact—and this is well documented—women are much more likely to prefer to distribute their time in a more judicious way across different domains. Women, compared to men, spend more time with their kin, they spend more time maintaining their friendships, and so forth. Men are more willing to sacrifice their friends, their family, in order to get ahead in the status hierarchies and to acquire resources. The upshot of it is that the coevolution of women's mate preferences and men's strategies to embody what women want has resulted in an unequal distribution of resources.

In my view, this framework explains the origins and maintenance of inequality of resources in a more powerful way than, I think, any other theory does. I looked into the other theories, and I asked myself, "Well, how do they explain the origins of this?" and I found that none of them really does; they just take it as a given or starting point that men have more resources than women and that's unfair and how do we correct it. Well, how did we get to this state, and why is it characteristic of all societies? People don't realize that resources are not something that are just there—of course, now we have systems of inheritance which bias the procedure in ways that didn't previously happen—but if you look at those other cultures, how are resources acquired? For example, if you live in a hunter-gatherer culture and there aren't resources immediately at hand—you have to go out and get them. For a man, he has to go out and hunt down a large animal or take risks getting stung by bees in order to get calorically rich honey. If you go to a hunter-gatherer society and say, "This is unfair, men have more meat and honey than women," well, they have to hunt to get them. You have to ask, Why do men hunt? Men hunt—and it's a very risky activity, by the

way; large game hunting is very risky and you can get killed by the large game animal that you're trying to take down. Why do men do it? In part, they're doing it to fulfill what women want. Men bring home the meat, and in hunter-gatherer societies, having hunting skills is the single most important prestige criterion for men. It means an elevation in status, access to more mates, more desirable mates, and so forth.

One way of putting it is that men's strategies have coevolved to fulfill women's mate preferences, just as women's strategies have coevolved to fulfill men's mate preferences. It is the coevolution of mate preferences and mate-attraction strategies that has, at least in part, resulted in this economic inequality that we find today. Interestingly, in most cultures, men compete primarily with other men, and in fact there are great economic inequalities among men—from the Bill Gateses of the world to the skid row bum. This does not rule out the very real possibility that women have experienced, and may currently experience, discrimination in the workforce. They have. I have close female friends who have experienced extremely unfair forms of discrimination in salary and other ways. Our evolved psychology of mating strategies surrounding resource acquisition, however, is clearly part of the causal picture in explaining human economic behavior.